REMARKS/ARGUMENTS

In light of the foregoing remarks and amendments reconsideration and withdrawal of the rejections set forth in the Office Action dated August 6, 2004 are respectfully requested. Claims 1-36 were pending in this application at the time the present Office Action was mailed. Claims 1, 16, 19, 20, 25, and 36 have been amended and claim 18 has been cancelled in this correspondence; accordingly, claims 1-17 and 19-36 are now pending.

The applicant wishes to thank the Examiner for the thorough Office Action. In the Office Action, the Examiner rejected claims 1-10, 13, 15-36 and objected to claims 11, 12, 14. More particularly, the status of the application in light of this Office action is as follows:

> Claims 1-10, 13, 15-17, 19-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Pollack et al (U.S. Patent No. 6,192,026).
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> Claim 18 is rejected under 35 U.S.C. 102(e) as being anticipated Dorenbosch et al. (U.S. Patent No. 6,469,997).
>
> Claims 11, 12, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Section 102 Rejections of Claims 1, 16, 19, 20, 25, and 36

Independent claims 1, 16, 19, 20, 25, and 36 are rejected under 35 U.S.C. § 102(e) as being anticipated by Pollack. Claims 1, 16, 19, 20, 25, and 36 all comprise "assigning unique request signals" to remote units to prevent collisions of the "uplink request signals." As explained below, such feature is neither disclosed nor suggested by Pollack.

It is vital to be aware of the fact that "collision" has been used in two different contexts both in this invention as well as in Pollack. The first context is the collision of data transmissions, while the second is the collision of requests for data transmission.

While both inventions have successfully prevented the "data transmission" collisions, only the present invention has overcome the collision problem of the second type, namely the requests for data transmission by a remote unit to a base station. The explanations presented in this response relate to preventing collisions of "data transmission requests;" Pollack does not teach or suggest such preventive measure. Claims 1, 16, 19, 20, 25, and 36 recite, *inter alia*, the following limitations:

> Claim 1 recites a method for receiving uplink data messages at a base station, without collision, comprising, *inter alia*, "assigning a plurality of **unique** uplink request signals to a plurality of remote units..."
>
> Claim 16 recites a method for a remote unit to uplink data messages to a base station without collision, comprising, *inter alia*, "receiving a request for **unique** uplink request signals..."
>
> Claim 19 recites a method for receiving uplink data messages at a base station from a plurality of remote units without collision, comprising, *inter alia*, "assigning a **unique** uplink request signal...to each remote unit..."
>
> Claim 20 recites a method for a base station to identify a remote unit, comprising, *inter alia*, "assigning a plurality of **unique** identification signals to a plurality of remote units..." and "monitoring the unique identification signals"
>
> Claim 25 recites a communication system for receiving uplink data messages at a base station without collision, comprising, *inter alia*, "the base station establishing an arbitration state to request **unique** uplink request signals..."
>
> Claim 36 recites a remote unit for transmitting requests to uplink data message to a base station without collision, comprising, *inter alia*, "a receiver having an input to accept solicitations for **unique** uplink request signals"

The quoted statements in the above claims are some of the provisions for making the "uplink request signals" collision free, and are in addition to the provisions designed to prevent collisions of the "data transfers." In the embodiments of this invention, the base station provides each remote unit with a "unique" means to be later used for sending a signal to the base station to request permission for uplink data transmission. This concept is absent in Pollack. The differences between the

embodiments of this invention and Pollack, with regard to this matter, are briefly explained in the following paragraphs.

In the embodiments of this invention, two distinct states are defined for accessing the communication channel: an "arbitration state" and a "data transfer state." During the "arbitration state," the base station asks each remote unit to send its unique uplink request signal to the base station. It is important to note that it is at this same arbitration state that, unlike Pollack, the base station provides (assigns) each remote unit with a unique means of contacting the base station to prevent any uplink request collision. And while providing each remote unit with a unique means of contacting it, the base station also maintains a list of all the remote units and their assigned means.

The "data transfer state" then occurs after the remote stations contact the base station and are granted permission to transmit data. During the "data transfer state," as the title suggests, the remote units, as described in the disclosure of this invention, transmit their data to the base station.

During the arbitration state the base station assigns to each remote unit an orthogonal signal component such as orthogonal in time (TDMA), in frequency (FDMA), in code (CDMA), in space (SDMA), or a combination of two or more. If the channel conditions are poor, the base station may even assign more than one orthogonal signal component to any remote unit such as more than one frequency tone. With these provisions, there will be no possibility of collision when the remote units send uplink requests for data transmission to the base station.

The undersigned respectfully submits that, contrary to the statements of the Office Action with regard to claims 1, 16, 19, 20, 25, and 36, Pollack neither discloses nor implies having any arrangement between his base station (AP) and his remote units (DCDs) to prevent uplink request collisions. As mentioned below, Pollack only avoids "data transfer" collisions by scheduling the "data transfers." And, even though all Pollack's communications use OFDM (Orthogonal Frequency Division Multiplexed), there is no coordination between Pollack's remote units and his base station to make sure that all remote units' request signals are unique and will not cause any collision.

To start the communication, Pollack's base station merely synchronizes all the remote units, by sending a SYNC burst, and waits for the remote units to contact it. Pollack has no further preventive arrangement at this point. As a matter of fact, in column 7, lines 35-38, Pollack admits and clearly explains that in his system there is a possibility of collision during the "requesting time." Pollack's disclosure recites: "During Request Access burst 404, any of DCDs 202 needing to use the bus (the shared network medium) may transmit an access request. Since DCDs 202 submit access requests without coordination, the possibility of collision exists within RA burst 404." Nowhere in the referenced patent does Pollack deviate from this position.

In his elaboration of this issue in column 7, lines 38-43, Pollack further emphasizes that his suggested solution to this problem, which he offers in passing, merely "reduces the probability of collisions." In this mitigating solution (col. 8, lines 52-58), Pollack divides a request burst into five (5) portions, called RA access channels, each of which can carry the request of a remote unit. However, in column 8, line 60, Pollack adds: "thereby reducing contention among network DCDs 202." Please note that, in contrast to this invention, Pollack's only mitigating solution is not an arrangement between the base station and the remote stations.

In summary, Pollack never declares having an arrangement that prevents uplink request collisions, and never teaches or suggests assigning unique means to the remote units for contacting the base station during the requesting time. Pollack has made it clear that he has merely reduced the possibility of collision. Nevertheless, claims 1, 16, 19, 20, 25, and 36 are amended to include some of the means provided by the base station to the remote units to prevent uplink request collisions. Further, these claims were amended to clarify that the base station assigns the unique signals to the remote units. As noted above, Pollack fails to disclose or suggest having the base station provide any such assigning.

For the reason discussed above and for the additional features of the amended claims 1, 16, 19, 20, 25, and 36, a *prima facie* case of anticipation under Section 102

has not been established with respect to this claim and accordingly the undersigned requests the withdrawal of the Section 102 rejection of these claims.

Claims 2-10, 13, and 15 depend from claim 1, claim 17 depend from 16, claims 21-24 depend from claim 20, and claims 26-35 depend from claim 25, and accordingly include the features of these independent claims. For reasons discussed above and for the additional features of these claims, a *prima facie* case of anticipation under Section 102 has also not been established with respect to claims 2-10, 13, 15, 17, 21-24, and 26-35 and accordingly the Section 102 rejection of these claims should be withdrawn.

Response to Section 102 Rejections of Claim 18

Independent claim 18 is rejected under 35 U.S.C. § 102(e) as being anticipated by Dorenbosch. Claim 18 is hereby cancelled.

Response to Objections to Claims 11, 12, and 14

Claims 11, 12, and 14 are objected to as being dependent upon a rejected base claim. Claims 11, 12, and 14 depend from claim 1 and accordingly include the features of claim 1. For reasons discussed above a *prima facie* case of anticipation under Section 102 has not been established with respect to the base claim 1 and accordingly the undersigned requests the withdrawal of the Section 102 objection of these claims.

Conclusion

In view of the foregoing, the claims pending in the application comply with the requirements of 35 U.S.C. § 112 and are in condition for allowance; therefore, a Notice of Allowance is respectfully requested. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to call the undersigned at (206) 359-3599.

Respectfully submitted,
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